NPIC/TSSG/DED-1497-69
7 February 1969

MEMORANDUM FOR: Chief, Plans & Programs Division, PPBS/NPIC

THROUGH : Chief, Technical Services & Support Group, NPIC

SUBJECT : R&D Status Report on Selected Projects

REFERENCE : PPD/PPBS Speed Letter Dated 24 December 1968

1. The following January Project Status information is forwarded in response to the request contained in the reference letter:

a. High Precision Stereo Comparator - Approximately 46% of the project is complete. [redacted] has prepared a new Pert Chart to reflect the effects of the slippage in the optical subcontract on the rest of the program. As reported last month, the target date for completion, installation and acceptance of the instrument is June 1970. 25X1

A monitor visit was made to the [redacted] facility on 28 and 29 January 1969. The X and Y Granite stages are being assembled and the air bearing technique for the stages was demonstrated. 25X1

[redacted] Project Manager will visit [redacted] the week of 10 February to monitor the optical subcontract. 25X1 25X1

b. Automatic Target Recognition Program - The cloud screening feasibility demonstration is still scheduled for March or April. At that time, the electronic clue extraction technique and diffraction pattern sampling technique will be demonstrated and possibly the matched filtering approach. Program is on schedule.

The proposal for the Phase IV follow-on effort has been evaluated and approved by Development & Engineering Division. The paper work for funding is underway.

[redacted] has been made the [redacted] Program Manager for the NPIC/ATR Program and Chief of the Information Sciences Department vice [redacted] 25X1 25X1 25X1

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c. 1540 Light Table - The Prototype was completed and pre-acceptance tests were performed 30 January. Several omissions and malfunctions were discovered during the test and were corrected. The prototype was delivered to NPIC on 6 February. Acceptance testing by the Engineering Support Division is to start 10 February and continue for approximately four weeks, ending on or before 7 March. Operational evaluation by IEG is scheduled to begin 10 March, followed by evaluation by IAS.

d. Dry Silver Material and Equipment Development - Since MYLAR (polyester) base is cast under tension for greater strength, the heat processing of dry silver material causes the base to "remember" its original cast state and shrink in size. A special facility is being made available to pre-shrink the material prior to coating so that a "relaxed" material is heat processed and the dimensional stability is kept within bounds. Currently [redacted] is also outfitting a plant to produce a photographic quality (which cannot be purchased) polyester film base (MYLAR) for dry silver film and dry diazo film bases which are free of blemishes and will accept an even coating. 25X1

e. Wide-Field, High-Power Anamorphic Stereoviewer - As previously reported, the first phase optical design is due for delivery 30 March 1969; this schedule still appears to be realistic. [redacted] is continuing to optimize the design using the Grey Optimization Program. On the assumption that an acceptable optical design is produced, the prototype instrument is still scheduled for delivery 30 July 1970. 25X1

A potential problem has arisen on the use of this stereoviewer by people who wear eyeglasses in that they may not be able to get close enough to the designed eyepieces to utilize the entire field-of-view. A separate staff study of this problem, with alternate solutions, is being prepared by DED.

f. Advanced Rhomboids Model II - [redacted] is presently fabricating the prototype instrument. All of the parts have been received and assembly has begun with some of the sub-assemblies complete. Prototype delivery is scheduled for 30 March 1969 which still appears realistic. 25X1

g. Automatic Stereo Scanner [redacted] has reported an additional [redacted] extra cost at the January cost-to-complete review but this is covered in approved funding. [redacted] has reported an additional 5-week slippage which now makes the official completion date 12 May 1969; however, a further 1-2 week schedule slippage is anticipated for the last optical components still going through procurement. 25X1 25X1 25X1

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h. Image Comparison Microstereoscope [redacted] - The Optical Design was completed in late January -- a schedule slip of three weeks. A 6-week slip in completion of the Base Mechanical Design is predicted, however, [redacted] expects to achieve their scheduled completion of the assembly phase by 1 October 1969. Considerable contingency time is built into the assembly phase, and this can be accelerated by the use of extra [redacted] personnel. 25X1 25X1 25X1

While no official statement has been made by [redacted] problems in optical design and mechanical detailing of certain subassemblies have exceeded budgeted costs. It remains to be seen if saving in other task areas will fully compensate. As usual at the end of the design phase, [redacted] is re-estimating cost-to-complete; this re-estimate will be available in early March 1969. 25X1 25X1

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Acting Chief, Development & Engineering Division, TSSG

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